

# EXHIBIT F



September 21, 2016

## MACOM Introduces Industry's Highest Power MMIC Amplifiers Covering DC-22 GHz for Test and Measurement, Electronic Warfare and Radar Applications

*The new MAAP-011247 and MAAP-011248 offer fully matched solutions for driver and power applications*

LOWELL, Mass.--(BUSINESS WIRE)-- MACOM Technology Solutions Inc. ("MACOM"), a leading supplier of high-performance RF, microwave, millimeterwave and photonic semiconductor products, today introduced the [MAAP-011247](#) and [MAAP-011248](#), distributed power amplifiers operating from DC to 22 GHz. These amplifiers can be used as a power amplifier stage or as a driver stage in higher power applications, and are ideally suited for Test and Measurement (T&M), Electronic Counter Measures (ECM) and Radar applications.

For over 60 years, MACOM's design and applications experts have spearheaded innovation in the RF, microwave and millimeterwave domain. Proven engineering and application support teams are continuing in this legacy with a next generation of wideband MMIC solutions designed for the most demanding customer applications.

The [MAAP-011247](#), a 2 watt amplifier, features 12dB of linear gain, 33 dBm of saturated output power and the industry's highest output power for a MMIC amplifier covering DC-22 GHz. The device is fully matched across the band and provides 42 dBm of OIP3 linearity. The [MAAP-011248](#), a 1 watt amplifier, offers 12.5 dB of linear gain, 30 dBm of saturated output power and can be operated over a drain voltage of 9 to 12 V for optimization of RF power versus DC power dissipation.

Both devices offer customers an integrated temperature-compensated output power detector, and are available in bare die or in 5mm QFN packages.

"The MAAP-011247 and MAAP-011248 are the first of four new distributed amplifiers designed to deliver high gain and power in compact bare die or QFN packaged solutions," said Graham Board, Senior Director, Multi-Market Products, at MACOM. "Two additional distributed amplifiers with ¼ W and ½ W output power, are scheduled for release over the next two quarters. This complete family of distributed amplifiers will offer customers a full range of power levels to solve their most challenging wideband Test & Measurement and mission critical Aerospace & Defense system requirements."

The table below outlines typical performance for the MAAP-011247/DIE & MAAP-011248/DIE:

Parameter	Units	MAAP-011247/DIE	MAAP-01148/DIE
Gain	dB	12	12.5
Pout	dBm	33	30
P1dB	dBm	31	27
OIP3	%	42	41
Power Added Efficiency	dB	15	15
Input Return Loss	dB	12	12
Output Return Loss	dB	12	12
Drain Current (with RF Drive)	dBm	860	650
Package Size	mm	5mm 32LD QFN	5 32LD QFN
Die Size	mm	2.99 x 1.5 x 0.1	2.99 x 1.5 x 0.1

Production quantities and samples of **MAAP-011247/DIE** & **MAAP-011248/DIE** are available from stock. Final datasheets and additional product information can be obtained from the MACOM website at: [www.macom.com](http://www.macom.com).

### ABOUT MACOM

MACOM enables a better-connected and safer world by delivering breakthrough semiconductor technologies for optical, wireless and satellite networks that satisfy society's insatiable demand for information.

Today, MACOM powers the infrastructure that millions of lives and livelihoods depend on every minute to communicate, transact business, travel, stay informed and be entertained. Our technology increases the speed and coverage of the mobile Internet and enables fiber optic networks to carry previously unimaginable volumes of traffic to businesses, homes and datacenters.

Keeping us all safe, MACOM technology enables next-generation radars for air traffic control and weather forecasting, as well as mission success on the modern networked battlefield.

MACOM is the partner of choice to the world's leading communications infrastructure, aerospace and defense companies, helping solve their most complex challenges in areas including network capacity, signal coverage, energy efficiency and field reliability, through its best-in-class team and broad portfolio of analog RF, microwave, millimeterwave and photonic semiconductor products.

MACOM is a pillar of the semiconductor industry, thriving for more than 60 years of daring to change the world for the better, through bold technological strokes that deliver true competitive advantage to customers and superior value to investors. Headquartered in Lowell, Massachusetts, MACOM is certified to the ISO9001 international quality standard and ISO14001 environmental management standard. MACOM has design centers and sales offices throughout North America, Europe, Asia and Australia.

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